

In the Claims:

1. (Currently amended) A process for treating organosilicate dielectric material, comprising:

exposing the organosilicate dielectric material to a halogenation reagent;
exposing the organosilicate dielectric material to an alkylation reagent; and
exposing the organosilicate dielectric material to a termination reagent.

2. (Currently amended) The process of claim 1 wherein the halogenation reagent is selected from the group consisting of SOCl_2 , SOBr_2 , PCl_5 , PBr_5 , POCl_3 , $[\text{Cl}_3]$, Cl_2 , and Br_2 .

3. (Original) The process of claim 1 wherein the alkylation reagent is selected from the group consisting of ethylene, propylene, 1-butylene, and Grignard reagents.

4. (Currently Amended) ~~The process of claim 1~~ A process for treating organosilicate dielectric material, comprising:

exposing the material to a halogenation reagent;

exposing the material to an alkylation reagent; and

exposing the material to a termination reagent, wherein the termination reagent is selected from the group consisting of trimethylchlorosilane, hexamethyldisilazane, and alkyl halides.

5. (Currently Amended) The process of claim 1 wherein the process occurs ~~in situ~~ with in the same environment as a prior process that breaks at least one silicon-carbon bond in the dielectric material.

6. (Original) The process of claim 1 further comprising using an energy generator to increase the reaction rate of the process.
7. (Original) A process for fabricating an insulating layer on an integrated circuit structure comprising:
- forming a layer of organosilicate insulating dielectric material on the integrated circuit structure;
 - forming a resist mask on the layer of dielectric material;
 - etching the layer of dielectric material using the mask;
 - removing the resist mask;
 - exposing the dielectric material to a halogenation reagent;
 - exposing the dielectric material to an alkylation reagent; and
 - exposing the dielectric material to a termination reagent.
8. (Currently Amended) The process of claim 7 wherein the halogenation reagent is selected from the group consisting of SOCl_2 , SOBr_2 , PCl_3 , PBr_3 , PCl_5 , PBr_5 , POCl_3 , $[\text{Cl}_3]$, Cl_2 , and Br_2 .
9. (Original) The process of claim 7 wherein the alkylation reagent is selected from the group consisting of ethylene, propylene, 1-butylene, and Grignard reagents.

10. (Currently Amended) ~~The process of claim 7~~ A process for fabricating an insulating layer on an integrated circuit structure comprising:

forming a layer of organosilicate insulating dielectric material on the integrated circuit structure;

forming a resist mask on the layer of dielectric material;

etching the layer of dielectric material using the mask;

removing the resist mask;

exposing the dielectric material to a halogenation reagent;

exposing the dielectric material to an alkylation reagent;

exposing the dielectric material to a termination reagent, wherein the termination reagent is selected from the group consisting of trimethylchlorosilane, hexamethyldisilazane, and alkyl halides.

11. (Original) The process of claim 7 wherein the removal of the photoresist mask and the exposure to the reagents are performed in a common chamber.

12. (Original) The process of claim 11 further comprising using an energy generator in the chamber to increase the reaction rate of the process.

13. (Cancelled)

14. (Currently Amended) A process for further treating damaged low-k organosilicate dielectric material whose dielectric properties have been degraded by a previous processing step, comprising:

exposing the degraded organosilicate dielectric material to a halogenation reagent;

exposing the organosilicate dielectric material to an alkylation reagent; and

exposing the organosilicate dielectric material to a termination reagent.

15. (New) The process of claim 14 wherein the termination reagent is selected from the group consisting of trimethylchlorosilane, hexamethyldisilazane, and alkyl halides.